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MONTHLY NOTICES

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Lieut.-General J. F. TENNANT, R.E., C.I.E., F.R.S., President, in the Chair.

John Billington Booth, J.P., Preston, Lancashire; and
Hannibal Mirabita, 134 Strada Britannica, Alexandria,

were balloted for and duly elected Fellows of the Society.

The following candidates were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended :—

Richard Edward Synge Cooper, Gentleman, Hillmorton Paddox, Rugby (proposed by J. C. Adams);
Hugh Frank Newall, Trinity College, Cambridge (proposed by H. H. Turner); and
Samuel H. Ridge, B.A., F.R.G.S., 275 Victoria Parade East, Melbourne, Victoria (proposed by P. Edward Dove).

Sixty-five presents were announced as having been received since the last meeting, including amongst others :—

Annales de l'Observatoire de Paris (Mémoires), tome xix., presented by the Observatory; Œuvres complètes de Laplace, tome viii., presented by the Academy of Sciences, Paris.

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Sirius. By S. W. Burnham, M.A.

It may not be generally known, even by those who have given special attention to observing or investigating the *Sirius* system, that all the collections of the measures of the companion hitherto published are not only very incomplete with respect to the number of measures which have been made, but contain many material errors in the observations quoted and made use of. Errors of one sort and another, first made long ago, have been handed down, and, remaining unchallenged, have come to be overlooked altogether. Many years ago I undertook to collect all the measures that have been made of every known double star, and the more important notes and papers referring to them, and have since added the current measures and observations, so that the history of each double star is substantially complete to this time. I have endeavoured to make these references to *Sirius* cover the various points of interest connected with it as a double star, commencing with the investigation which resulted in the discovery of the companion by Mr. Alvan G. Clark, and especially to include all measures of the small star since the first observation in 1862. The time will soon come when a complete list of these measures will be more important than it has been heretofore, for the close determination of the real period of this interesting binary. Down to this time the result must necessarily be only approximate, since the companion has moved through less than 90° of its orbit, and the real dimensions of the apparent ellipse cannot be rigidly determined. In a few years more, and probably as soon as the companion can be seen by any telescope now in use, it will have added 180° to the arc already passed over, and then a single measure will enable the period to be computed with a very small percentage of error. This important additional measure I trust can be made with the Lick telescope within the next four or five years.

In view of the new interest which this system will then have for both the observer and the computer, I have thought it important to make as perfect a collection as possible of the published observations for the benefit of all concerned. In nearly every instance I have referred to the original publication, and there obtained the figures here given. In many cases this has been necessary to avoid the errors frequently made by taking the measures from second-hand sources. As an illustration of this, I may mention one or two examples.

In some of the collected observations, Challis is credited with having measured the companion in 1862. As a matter of fact he did not measure it, and, so far as I know, never attempted to. This measure was really made by Chacornac. Gledhill gives a different result to both Challis and Chacornac, which doubtless

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